

SEQUENCE LISTING:

SEQ ID NO. 1:

Hbmog1.Seq Length: 672 October 23, 1997 16:35 Type: N Check: 457 .

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  1  GTCCTTCCTC CTCCACCCAG ACCTCACTGC TCAGATCCCC TTCGCCAACT
 51  GGGACATCTT CCGACATGGC CTGGATGCTG TTGCTCATCT TGATCATGGT
101  CCATCCAGGA TCCTGTGCTC TCTGGGTGTC CCAGCCCCCT GAGATTCGTA
151  CCCTGGAAGG ATCCTCTGCC TTCCTGCCCT GCTCCTTCAA TGCCAGCCAA
201  GGGAGACTGG CCATTGGCTC CGTCACGTGG TTCCGAGATG AGGTGGTTCC
251  AGGGAAGGAG GTGAGGAATG GAACCCCAAG GTTCAGGGGC GCCTGGCCC
301  CACTTGCTTC TTCCCGTTTC CTCCATGACC ACCAGGCTGA GCTGCACATC
351  CGGGACGTGC GAGGCCATGA CGCCAGCATC TACGTGTGCA GAGTGGAGGT
401  GCTGGGCCTT GGTGTCTGGA CAGGGAATGG GACTCGGCTG GTGGTGGAGA
451  AAGAACATCC TCAGCTAGGG GCTGGTACAG TCCTCCTCCT TCGGGCTGGA
501  TTCTATGCTG TCAGCTTTCT CTCTGTGGCC GTGGGCAGCA CCGTCTATTA
551  CCAGGGCAAA TGCCACTGTC ACATGGGAAC ACACTGCCAC TCCTCAGATG
601  GGCCCCGAGG AGTGATTCCA GAGCCCAGAT GTCCCTAGTC CTCTTCAAAA
651  GACCCCAATA AATCTGCCCC AC
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Translation goes from 66 to 635

SEQ ID NO 2:

Hbmog2.Seq Length: 890 October 23, 1997 16:25 Type: N Check:
9826 ..

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1  GTCCTTCCTC CTCCACCCAG ACCTCACTGC TCAGATCCCC TTCGCCAACT
51  GGGACATCTT CCGACATGGC CTGGATGCTG TTGCTCATCT TGATCATGGT
101 CCATCCAGGA TCCTGTGCTC TCTGGGTGTC CCAGCCCCCT GAGATTTCGTA
151 CCCTGGAAGG ATCCTCTGCC TTCCTGCCCT GCTCCTTCAA TGCCAGCCAA
201 GGGAGACTGG CCATTGGCTC CGTCACGTGG TTCCGAGATG AGGTGGTTCC
251 AGGGAAGGAG GTGAGGAATG GAACCCAGAG GTTCAGGGGC GCCTGGCCC
301 CACTTGCTTC TTCCCGTTTC CTCCATGACC ACCAGGCTGA GCTGCACATC
351 CGGGACGTGC GAGGCCATGA CGCCAGCATC TACGTGTGCA GAGTGGAGGT
401 GCTGGGCCTT GGTGTCGCGA CAGGGAATGG GACTCGGCTG GTGGTGGAGA
451 AAGAACATCC TCAGCTAGGG GCTGGTACAG TCCTCCTCCT TCGGGCTGGA
501 TTCTATGCTG TCAGCTTTCT CTCTGTGGCC GTGGGCAGCA CCGTCTATTA
551 CCAGGGCAAA TATGCCAAAT CTA CTCTCTC CGGATTCCCC CAACTCTGAA
601 CTTTCCCTTC CACCAGGTCT GACCTGGAAA GGTCCAAGAA GGCAGCTGCC
651 GGCTGTGGTC CCAGCGCCCC TCCCACCACC ATGTGGGAGC TCAGCACATC
701 TGCTTCCCCC AGTCCCAGGA GGCTGAGCCT GATTGTCCTG AGAAATGGGA
751 AGGATCAGAT ATGACTCCTC CTTGGCAACT GCCCTTTCCT GCCAGGCCCA
801 CACATACCCT CTTCTGGCTG TTAGGGGAGC TTGGGTCCCT GAACACTGTC
851 ATTCACCCAA CAAATTACTA TTTGACCCCA GAGTGGGTGG
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Translation goes from 66 to 598

SEQ ID NO 3:

Hbmog3.Seq Length: 835 October 23, 1997 16:26 Type: N Check:
8316 ..

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1  GTCCTTCCTC CTCCACCCAG ACCTCACTGC TCAGATCCCC TTCGCCAACT
51  GGGACATCTT CCGACATGGC CTGGATGCTG TTGCTCATCT TGATCATGGT
101 CCATCCAGGA TCCTGTGCTC TCTGGGTGTC CCAGCCCCCT GAGATTGTA
151 CCCTGGAAGG ATCCTCTGCC TTCCTGCCCT GCTCCTTCAA TGCCAGCCAA
201 GGGAGACTGG CCATTGGCTC CGTCACGTGG TTCCGAGATG AGGTGGTTCC
251 AGGGAAGGAG GTGAGGAATG GAACCCAGAG GTTCAGGGGC GCCTGGCCC
301 CACTTGCTTC TTCCCGTTTC CTCCATGACC ACCAGGCTGA GCTGCACATC
351 CGGGACGTGC GAGGCCATGA CGCCAGCATC TACGTGTGCA GAGTGGAGGT
401 GCTGGGCCTT GGTGTCGGGA CAGGGAATGG GACTCGGCTG GTGGTGGAGA
451 AAGAACATCC TCAGCTAGGG GCTGGTACAG TCCTCCTCCT TCGGGCTGGA
501 TTCTATGCTG TCAGCTTTCT CTCTGTGGCC GTGGGCAGCA CCGTCTATTA
551 CCAGGGCAAA TGTCTGACCT GGAAAGGTCC AAGAAGGCAG CTGCCGGCTG
601 TGGTCCCAGC GCCCCTCCCA CCACCATGTG GGAGCTCAGC ACATCTGCTT
651 CCCCAGTCC CAGGAGGCTG AGCCTGATTG TCCTGAGAAA TGGGAAGGAT
701 CAGATATGAC TCCTCCTTGG CAACTGCCCT TTCCTGCCAG GCCCACACAT
751 ACCCTCTTCT GGCTGTTAGG GGAGCTTGGG TCCCTGAACA CTGTCATTCA
801 CCCAACAAAT TACTATTTGA CCCAGAGTG GGTGG
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Translation goes from 66 to 668

SEQ. ID NO. 4:

Hbmog1.pep Length: 190 October 23, 1997 16:34 Type: P Check:
3831 ..

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1  MAWMLLLILI MVHPGSCALW VSQPPEIRTL EGSSAFLPCS FNASQGR Lai
51  GSVTWFRDEV VPGKEVRNGT PEFRGRLAPL ASSRFLHDHQ AELHIRDVRG
101 HDASIYVCRV EVLGLGVGTG NGTRLVVEKE HPQLGAGTVL LLRAGFYAVS
151 FLSVAVGSTV YYQ GKCHCHM GTHCHSSDGP RGV IPEPRCP
```

SEQ ID NO 3:

Hbmog3.Seq Length: 835 October 23, 1997 16:26 Type: N Check:
8316 ..

```

      1  GTCCTTCCTC CTCCACCCAG ACCTCACTGC TCAGATCCCC TTCGCCAACT
     51  GGGACATCTT CCGACATGGC CTGGATGCTG TTGCTCATCT TGATCATGGT
    101  CCATCCAGGA TCCTGTGCTC TCTGGGTGTC CCAGCCCCCT GAGATTCGTA
    151  CCCTGGAAGG ATCCTCTGCC TTCTGCCCT GCTCCTTCAA TGCCAGCCAA
    201  GGGAGACTGG CCATTGGCTC CGTCACGTGG TTCCGAGATG AGGTGGTTCC
    251  AGGGAAGGAG GTGAGGAATG GAACCCAGAG GTTCAGGGGC GCCTGGCCC
    301  CACTTGCTTC TTCCCGTTTC CTCCATGACC ACCAGGCTGA GCTGCACATC
    351  CGGGACGTGC GAGGCCATGA CGCCAGCATC TACGTGTGCA GAGTGGAGGT
    401  GCTGGGCCTT GGTGTCGGGA CAGGGAATGG GACTCGGCTG GTGGTGGAGA
    451  AAGAACATCC TCAGCTAGGG GCTGGTACAG TCCTCCTCCT TCGGGCTGGA
    501  TTCTATGCTG TCAGCTTTCT CTCTGTGGCC GTGGGCAGCA CCGTCTATTA
    551  CCAGGGCAAA TGTCTGACCT GGAAAGGTCC AAGAAGGCAG CTGCCGGCTG
    601  TGGTCCCAGC GCCCCTCCCA CCACCATGTG GGAGCTCAGC ACATCTGCTT
    651  CCCCAGTCC CAGGAGGCTG AGCCTGATTG TCCTGAGAAA TGGGAAGGAT
    701  CAGATATGAC TCCTCCTTGG CAACTGCCCT TTCTGCCAG GCCCACACAT
    751  ACCCTCTTCT GGCTGTTAGG GGAGCTTGGG TCCCTGAACA CTGTCATTCA
    801  CCCAACAAAT TACTATTTGA CCCCAGAGTG GGTGG

```

Translation goes from 66 to 668

SEQ. ID NO. 4:

Hbmog1.pep Length: 190 October 23, 1997 16:34 Type: P Check:
3831 ..

```

      1  MAWMLLLILI MVHPGSCALW VSQPPEIRTL EGSSAFLPCS FNASQGR Lai
     51  GSVTWFRDEV VPGKEVRNGT PEFGRRLAPL ASSRFLHDHQ AELHIRDVRG
    101  HDASIYVCRV EVLGLGVGTG NGTRLVVEKE HPQLGAGTVL LLRAGFYAVS
    151  FLSVAVGSTV YYQGKCHCHM GTHCHSSDGP RGVIP EPRCP

```

SEQ ID NO 3:

Hbmog3.Seq Length: 835 October 23, 1997 16:26 Type: N Check:
8316 ..

```
1  GTCCTTCCTC CTCCACCCAG ACCTCACTGC TCAGATCCCC TTCGCCAACT
51  GGGACATCTT CCGACATGGC CTGGATGCTG TTGCTCATCT TGATCATGGT
101 CCATCCAGGA TCCTGTGCTC TCTGGGTGTC CCAGCCCCCT GAGATTCGTA
151 CCCTGGAAGG ATCCTCTGCC TTCCTGCCCT GTCCTTCAA TGCCAGCCAA
201 GGGAGACTGG CCATTGGCTC CGTCACGTGG TTCCGAGATG AGGTGGTTCC
251 AGGGAAGGAG GTGAGGAATG GAACCCAGAG GTTCAGGGGC GCCTGGCCC
301 CACTTGCTTC TTCCCGTTTC CTCCATGACC ACCAGGCTGA GCTGCACATC
351 CGGGACGTGC GAGGCCATGA CGCCAGCATC TACGTGTGCA GAGTGGAGGT
401 GCTGGGCCTT GGTGTCGGGA CAGGGAATGG GACTCGGCTG GTGGTGGAGA
451 AAGAACATCC TCAGCTAGGG GCTGGTACAG TCCTCCTCCT TCGGGCTGGA
501 TTCTATGCTG TCAGCTTTCT CTCTGTGGCC GTGGGCAGCA CCGTCTATTA
551 CCAGGGCAAA TGTCTGACCT GGAAAGGTCC AAGAAGGCAG CTGCCGGCTG
601 TGGTCCCAGC GCCCCTCCCA CCACCATGTG GGAGCTCAGC ACATCTGCTT
651 CCCCAGTCC CAGGAGGCTG AGCCTGATTG TCCTGAGAAA TGGGAAGGAT
701 CAGATATGAC TCCTCCTTGG CAACTGCCCT TTCCTGCCAG GCCCACACAT
751 ACCCTCTTCT GGCTGTTAGG GGAGCTTGGG TCCCTGAACA CTGTCATTCA
801 CCCAACAAAT TACTATTTGA CCCAGAGTG GGTGG
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Translation goes from 66 to 668

SEQ. ID NO. 4:

Hbmog1.pep Length: 190 October 23, 1997 16:34 Type: P Check:
3831 ..

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1  MAWMLLLILI MVHPGSCALW VSQPPEIRTL EGSSAFLPCS FNASQGR Lai
51  GSVTWFRDEV VPGKEVRNGT PEFGRGLAPL ASSRFLHDHQ AELHIRDVRG
101 HDASIYVCRV EVLGLGVGTG NGTRLVVEKE HPQLGAGTVL LLRAGFYAVS
151 FLSVAVGSTV YYQ GKCHCHM GTHCHSSDGP RGV IPEPRCP
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SEQ ID NO 5:

Hbmog2.pep Length: 177 October 23, 1997 16:33 Type: P Check:
3403 ..

1 MAWMLLLILI MVHPGSCALW VSQPPEIRTL EGSSAFLPCS FNASQGR Lai
51 GSVTWFRDEV VPGKEVRNGT PEFRGRLAPL ASSRFLHDHQ AELHIRDVRG
101 HDASIYVCRV EVLGLGVGTG NGTRLVVEKE HPQLGAGTVL LLRAGFYAVS
151 FLSVAVGSTV YYQGKYAKST LSGFPQL

SEQ ID NO 6:

Hbmog3.pep Length: 201 October 23, 1997 16:31 Type: P Check:
6803 ..

1 MAWMLLLILI MVHPGSCALW VSQPPEIRTL EGSSAFLPCS FNASQGR Lai
51 GSVTWFRDEV VPGKEVRNGT PEFRGRLAPL ASSRFLHDHQ AELHIRDVRG
101 HDASIYVCRV EVLGLGVGTG NGTRLVVEKE HPQLGAGTVL LLRAGFYAVS
151 FLSVAVGSTV YYQKCLTWK GPRRQLPAVV PAPLPPPCGS SAHLLPPVPG
201 G
